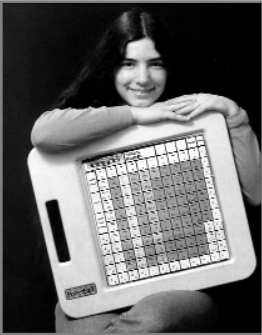


A New Way of Communicating

Rachel Zimmerman



An interest in assistive technology led to a new communications tool. In the mid-1980s, thirteen-year-old Rachel Zimmerman from London invented a software program and adapted a special touch pad to greatly improve the communications abilities of people with physical disabilities such as cerebral palsy. Her invention is the BLISSYMBOL PRINTER. It is based on BLISSYMBOLICS, a communications system which was invented by Canadian Charles Bliss. BLISSYMBOLICS allows a person to communicate without using speech or writing. Symbols are featured on a board, and the user points to a symbol in order to express a message. Traditional BLISSYMBOLICS requires that someone be with the user at all times, to watch and interpret as the user points to the symbols.

Rachel Zimmerman had a terrific role model – her mom Linda, who was founder and president of her own software company.

“Women are generally more inventive. They notice more and make links between things.”

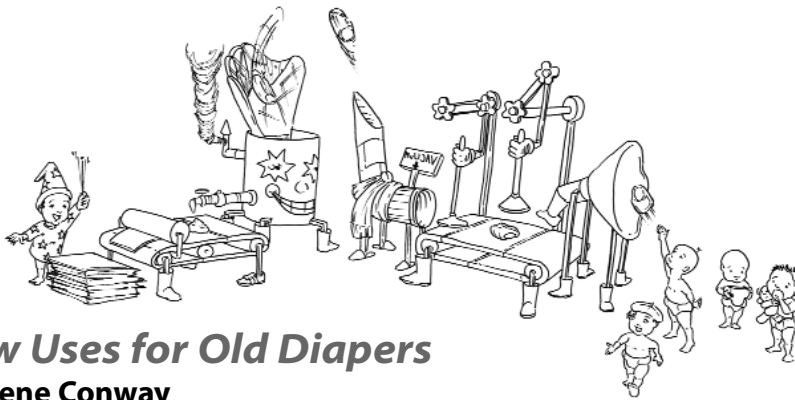
Eugenia Kumacheva

Rachel advanced this system further with the BLISSYMBOL PRINTER. Although the user still touches symbols on a special pad, now the chosen symbols are transformed into written language on a computer screen. The text can then be read on the computer screen or printed on paper, in English or French. As Rachel said, "For people who can't read or write, this gives them a lot more independence." Her innovation won her the 1985 silver medal at the Canada-Wide Science Fair, and earned her a 1990 YTV (television) Youth Achievement Award. Rachel went on to study physics and space studies in university. Today, she works at The Planetary Society in California, teaching people about space exploration. Rachel is also interested in combining space and assistive technology, and her goal is to use NASA inventions to help people who have disabilities.

Memory Power!

Eugenia Kumacheva

Dr. Eugenia Kumacheva, Associate Professor of Physical and Polymer Chemistry at the University of Toronto, is inventing a way for computers to hold more data than they currently do. Eugenia's invention would allow 10,000 gigs (roughly the amount of information stored on 14,286 CD Roms) of data to be stored in a computer chip the size of half a sugar cube.



New Uses for Old Diapers **Marlene Conway**

In 1950, American mom Marion Donovan made the first disposable diaper out of an old shower curtain and absorbent paper. Almost fifty years later, another mom, Marlene Conway of Toronto, invented a method to recycle more than five million disposable diapers thrown away annually in North America!

Though she didn't have a scientific background, Marlene's desire to help the environment inspired her to teach herself what she needed to know to invent the process. Her technology recycles both the absorbent material in the diaper and its waterproof cover. The first recycling demonstration facility using Marlene's technology opened in the mid-1990s in Ontario. The first full-scale commercial facility opened in Holland in 1999. Diapers come from sources such as hospitals, nursing homes and day care centres. Marlene holds more than ten patents on environment-related products or processes.

Marlene has become well-known as the "recycling lady." People are always mailing her used things they hope can be recycled. She says: "We have a ton of shoes, dishwasher racks, and other items. People will say to me 'Hey, is anyone dealing with this problem?'"

In 1996, the Chemical Institute of Canada presented Marlene with full Associate Degrees in Chemistry and Engineering for her achievements in environmental research.

Let's Play! **Laura Robinson**

Sometimes, inventing means finding a new way of packaging a familiar idea. Actress Laura Robinson of London, and her friend Paul Toyne, took an old family game and turned it into the popular board game BALDERDASH. In the game, players have to guess at finding the real meaning to obscure words, and try to outwit one another by creating bogus definitions. BALDERDASH is a hilarious test of creative wit. In 1987, it was the highest selling board game in Canada.

Look What's in a Disposable Diaper:

- 1) Polyethylene film for the back sheet prevents leaks.
- 2) Glue made from resins, oils, and tackifiers hold the diaper together.
- 3) Polypropylene resin material is used for the leg cuffs to prevent leaks.
- 4) Hydrophilic non-woven material is the main top inside surface. It lets liquids flow away from the baby into the diaper core.
- 5) Elastic made of polyurethane foam, rubber or stretchy plastic improves the fit.
- 6) Polypropylene and glue tabs keep the diaper on the baby.
- 7) Cellulose from pine trees makes the pad fluffy.
- 8) Polyacrilate is used in granular form in the pad so the diaper can hold more baby goo.